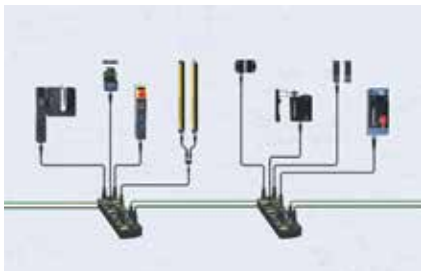
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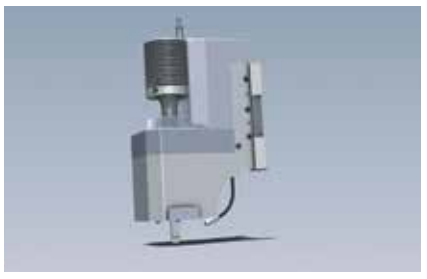


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Snickers Workwear trousers: More than fit for purpose



Six Work Trouser families to satisfy every need on site – sustainably

Snickers Workwear's trouser families are suited to any kind of work on site. Delivering maximum functionality, comfort, protection and mobility, they're the products of choice among discerning professional tradesmen and women. For them, sustainable, street-smart, body-mapping clothing are key parts of their product choices.

Hi-tech fabrics, functionality and fit are the hallmarks of these market-leading products. The AllroundWork trousers are ready for any kind of work in any trade. FlexiWork trousers deliver superior freedom of movement. While LiteWork trousers keep you cool, dry and ventilated.

Then there's RuffWork trousers, reinforced and tough for the roughest work on site. ProtecWork protective wear for hazardous environments and certified High-Vis trousers when personal visibility on site is a priority.

Snickers Workwear Trousers also deliver certified protection with the patented KneeGuard System for greater flexibility, comfort and durability. It's what makes them the optimal choice for craftsmen and women who need to get every job done comfortably and sustainably on site.

Getting information on the Snickers Workwear trouser families is easy. You can call the Snickers Helpline on 01484 854788, checkout the website at: www.snickersworkwear.co.uk or email: sales@hultaforsgroup.co.uk

Heimatec standard tools



Heimatec, as an international tooling company, is specialized in developing, manufacturing, and sales of innovative products and technologies at the headquarters in Renchen, Germany. Several thousands high-precision live and static tools for almost all CNC lathes, CNC turn-/mill machines and CNC machining centers belong to the product range of heimatec.

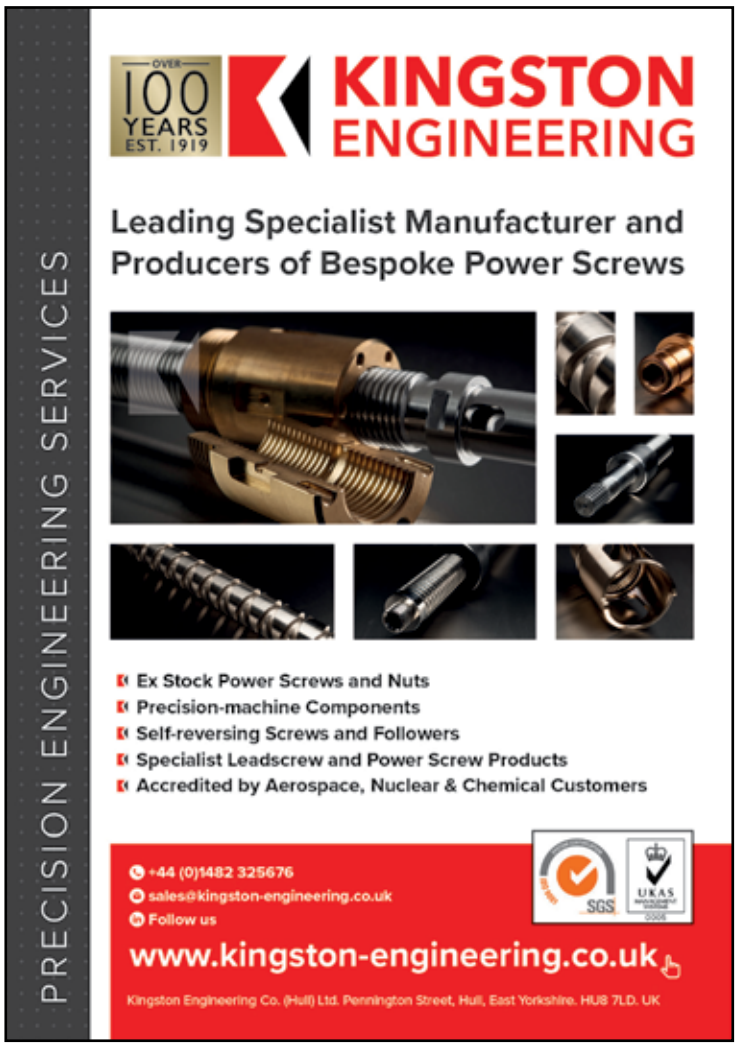
To support our customers to select the right tools within heimatec's large range, a selection of the most common standard tools of the most relevant machine manufacturers were created in different flyers. So, a basic set of standard tools for each machine type is listed and additionally the tools do have a shortened delivery time.

The flyers include by default a small selection of axial drilling and milling heads, radial drilling and milling heads as well as universal heads. The live tools are partly equipped with internal or external coolant, different rotation speeds and tool adaptions. For the static tools the flyer includes a selection of common universal turning holders, boring bar holders, combi facing holders and cut-off holders.

https://heimatec.com/en-US/index/news_heimatec_standardtools

More tools are of course available – just ask our sales team for advice. They are all available during the usual opening hours and recommend suitable tools for the particular customer-specific requirements.

For more information:
T +49 7843 94 66 0
info@heimatec.com
www.heimatec.com





The entire content of this publication is advertorial based. To place an advertorial or an advert, please call 01562 756960.

DBB Valves undergo fugitive emission tests for UAE

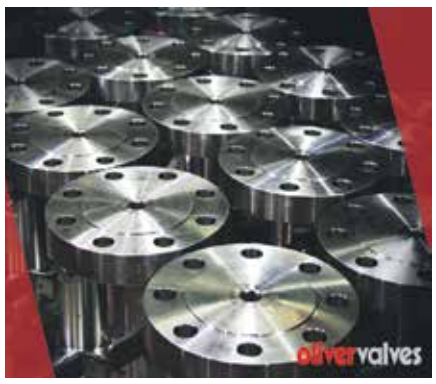
One piece flange x flange double block and bleed valves are put through extended testing and ISO fugitive emission tests at the request of our customer in the United Arab Emirates.

Material and specification of these valves are; stainless steel, 20mm ball valves, 3" raised face (class 300), fitted with ½" vent and fire safe handle locking systems.

The first 24x DBB valves of a much larger order undergo fugitive emission and pressure testing pictured here on our new test rigs in Knutsford, England. Once they've successfully completed the rigorous process, they'll leave for the Middle East.

To find out how Oliver Valves can meet your subsea project valve requirements, contact:

T +44 (0)1565 654089
sales@valves.co.uk
www.valves.co.uk





Do you need support with the Social Housing Decarbonisation Fund?



Applications for Wave 2.1 of the Social Housing Decarbonisation Fund (SHDF) are due to be launched in September 2022 and Aico, the European Market Leader in home life safety, can support you in your bid through their advanced smart home technology – collecting and analysing data about homes at scale to facilitate the successful delivery of SHDF projects.

The SHDF is a £3.8bn funding programme for registered providers of social housing to improve the energy performance of social homes. Two waves of funding have already been awarded, with Wave 2.1 soon to enter the competition phase. Provision for digitalisation has been made in Wave 2.1 as a response to poor, inadequate, and missing data in previous phases. Its purpose is to improve the quality and quantity of data to track progress, provide great detail of insight, and ensure projects meet their aims. A small number of Wave 1 projects used digitalisation and this has prompted their formal inclusion in Wave 2.1.

Among the areas of interest for digitalisation, BEIS has identified "The usage of smart technology, sensors and monitoring platforms to collect relevant real-world data (from the properties being retrofitted) for the assessment of properties to enable retrofit, or after retrofit for monitoring and evaluation purposes.".

Aico's HomeLINK Ei1020 and Ei1025 Environmental Sensors monitor temperature, humidity, and carbon dioxide, enabling insights to be calculated including heat loss, overheating, fuel poverty, damp and mould, and indoor air quality. The HomeLINK Portal provides an overview of the performance of your housing stock so you can compare your properties, identify the worst performing to target first, and monitor how installed measures have impacted homes.

To find out more about how Aico's HomeLINK connected home offering can aid your SHDF bid, please visit: www.aico.co.uk/social-housing-decarbonisation-fund

Breathe easy
with industrial air purification from Zehnder

In times where clean air is more important than ever, Zehnder's air cleaning solutions are a key factor in protecting your employees and equipent. They complement existing ventilation like LEV perfectly and flexibly to remove welding fumes, oil mist, dust, and toxic gases.

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- ✓ Less maintenance (-30 %)
- ✓ Exceed customer expectations
- ✓ Improved product quality

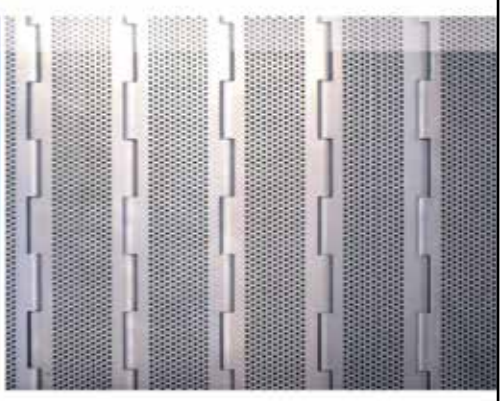
#startwithcleanair
info@zehnder-cleanairsolutions.com - www.zehnder-cleanairsolutions.com

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RMIG Solutions
we make ideas come to life







RMIG is the world's largest manufacturer and supplier of perforated metal and its related products.

We know our customers' requirements for price and quality and meet their demands with uncompromising service.

Not only do we offer standard and bespoke perforated metal sheets, we are able to offer you a range of secondary operations as detailed below.

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For some applications a high degree of flatness is required, we have processes in place to ensure our perforated coils and sheets meet with your most demanding requirements.

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We can roll, bend and form perforated sheets to match your design.

Aesthetic finishes and protective coating
We can offer powder coating and hot dip galvanizing solutions to meet your specifications.

For more information please contact us tel: 01925 839610 | email: info.uk@rmig.com | www.rmig.com

New High Power Blue Laser Diode

The **FNV-402-3000M** is a unique **402nm** laser diode that delivers the record-breaking output power of **3W**. It is built in a compact 9mm TO can (SOT-148). The laser diode offers high reliability and has a long lifetime of more than 47,000 hours (MTTF).

This blue high power laser diode is well suited for various applications, like e.g. direct imaging for PCB, industrial lasers, laser display, biomedical and medical lasers.
For further information about this product, please see datasheet here: **FNV-402-3000M**

sales@frlaserco.com
www.frlaserco.com



The Clifton Range

We are a well-established family-owned business with over 80 years' experience, and we are proud to be a British manufacturer. Our highly developed Clifton Range products are built for longevity and accuracy, making us a brand that is trusted and reliable. We believe in the quality of our products, and all backed with warranties. Because we are manufacturer of our products we also provide after care and helpful service on hand if needed.

As a company we recognise our responsibility towards the environment and strive to ensure that all aspects of the business have the least harmful effect on the environment. We have regular waste reduction meetings in the factory amongst staff. Any surplus materials are donated to local charity where educational establishments and local communities can use them for crafts and projects. We also support One Tree Planted and donate for very NE1D digital bath sold. Please see our website for all the things we do for our environment.

www.nickel-electro.co.uk

NICKEL - ELECTRO LTD.
Manufacturers of the Clifton Range

Jangro's ntrl range receives vegan accreditation

Jangro, the largest network of independent janitorial and cleaning distributors in the UK and Ireland, is delighted to announce that ntrl, its innovative range of natural cleaning products, is registered with The Vegan Society's Vegan Trademark. An internationally recognised standard, The Vegan Society's Vegan Trademark certifies that all products registered are free of all animal use, in ingredients and testing.

The ntrl portfolio comprises thirteen products ideal for cleaning surfaces in a variety of environments. All use raw materials that are derived from plant-based extracts. Their natural formulas are 100% biodegradable, contain zero petrochemicals, and can reduce the product's carbon footprint by up to 85%. Products come super-concentrated too, giving more uses out of a single container.

The ntrl Washroom Cleaner and the ntrl Multi-Surface Cleaner also harness revolutionary, probiotic cleaning. Rather than killing germs with chemicals, probiotics use beneficial bacteria to colonise surfaces, in effect taking over the area, including deep into hard-to-reach cracks and crevices. This means they can help to reduce the presence of harmful bacteria on surfaces and carry on working after they have been cleaned.

Joanne Gilliard, CEO at Jangro, comments, 'The number of vegans in the UK quadrupled in the five years between 2014 and 2019 to make 600,000 vegans, or 1.16% of the Great British population . This trend doesn't appear to be slowing down any time soon – in fact, according to research over half (56%) of Brits adopt vegan buying behaviours such as buying vegan products . We are proud to add a certified vegan cleaning range to our offering. The Vegan Society's Trademark helps customers identify products that



really are free from animal ingredients. We are thrilled that the ntrl range has been verified by The Vegan Society and can offer that added level of confidence.'

The full range includes: Washroom Cleaner; Toilet Cleaner; Foaming Washroom & Toilet Cleaner; Foam Hand Soap; Alcohol-Free Foam Hand Sanitiser; Multi-Surface Cleaner; Washing Up Liquid; Cleaner & Degreaser; Surface Sanitisers (available with and without fragrance); Organic Descaler; Kitchen Sanitiser; and an All-Surface Cleaner.

All packaging is recycled and recyclable. Since products are packaged into PCR (post-consumer recycled bottles), CO2 emissions are reduced and physical plastic pollution removed. Outer boxes are made from 100% recycled and FSC certified cardboard.
Produced to ISO 9001 and 14001 QMS standards, 100% of the range is made in the UK.

For more information, visit: www.jangro.net/ntrl

For more information about The Vegan Society's Trademark scheme, visit: www.vegansociety.com/the-vegan-trademark

The ADplus

Designed as a high capacity and reliable method for delivering instantaneous hot water to a commercial building, the tough, stainless steel 120-litre storage tank is provided with electronic anodic protection and high-quality polyurethane thermal insulation. This enables the ADplus to serve as a semi-storage system, providing always available and instantaneous supply with quick recovery times for large-scale continuous provision of DHW. For smaller on-demand needs, ADplus heats what is necessary, with no ignition for smaller withdrawals providing considerable energy savings. When heat is required, the condensing technology provides up to 30% savings in fuel consumption.

To reduce acidity build-up caused by the condensing process, the ADplus is equipped with a condensate acidity neutraliser, specifically sized to restore tolerable pH values. With the anti-corrosive construction, ADplus can be used with soft and softened water. For harder water, the recirculating pump regulates the correct water flow according to inlet water hardness helping to prevent the formation of limescale on the heat exchanger surface, ensuring high performance throughout its life cycle.

The ADplus boasts a compact, floor-standing arrangement designed to pass through a standard 65cm wide door for easy installation without need for racking and just 10cm clearance between units. Front access to all inner components allows for quick, easy



maintenance. The integrated cascade controller supports full temperature control and self-check maintenance functions for up to 8 joined units. The controller accommodates 0-10 input, MODBUS communication, and alarm output for seamless BMS integration.

With minimal NOX and CO emissions, the ADplus range is an eco-friendly way to serve your building's DHW system. The rugged construction, supported by Adveco's in-house warranty engineers, provides real peace of mind for your investment with operational longevity and full compliance with the latest building regulations, making it perfect for refurbishment of existing gas-fired systems and new projects seeking lower cost system redundancy for large-scale heat pump based applications.

For more information:
www.adveco.co

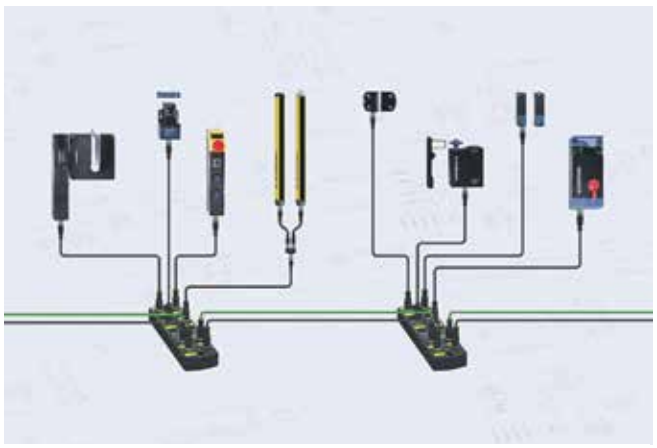
System solutions for machinery safety

Schmersal to showcase application-specific safety concepts at SPS

Whether safety solutions for new machinery and systems or a safety retrofit on older machinery, safety concepts need to be both flexible and efficient whilst helping to achieve greater productivity. At SPS, in Nuremberg, the Schmersal Group will be showcasing a range of new products as well as intelligent package solutions for machinery safety that are designed to be adaptable to individual applications and to meet new standard requirements.

As many as eight safety switchgear devices can be connected in the field via the Safety Fieldbox. This saves on wiring. The data are captured and forwarded collectively

New evaluation logics – For example for wind turbines
Schmersal will be introducing new versions of its multifunctional SRB-E series of safety relay modules at SPS. The SRB-E series, as well as the PROTECT SELECT safety compact control unit, combines maximum safety with straightforward usability and a high level of flexibility. This makes them suitable for use on the lift systems in wind turbines, which following changes to standard EN 81-44, are now subject to new safety requirements. An important new demand is that the safety-related parts of the control unit must now satisfy PL d in accordance with EN ISO 13849-1. Both the SRB-E product series and the PROTECT SELECT are capable of achieving this safety level. Combined with position switches and other safety components from Schmersal, these products can accomplish functions such as lift door monitoring in wind turbines, overload protection, direction monitoring and operate as limit stops.



As many as eight safety switchgear devices can be connected in the field via the Safety Fieldbox. This saves on wiring. The data are captured and forwarded collectively.

Safety Fieldbox reduces installation effort
Schmersal will also be showcasing an overhauled version of its Safety Fieldbox at SPS for the first time. The Safety Fieldbox allows different safety switchgear – from solenoid interlocks to safety sensors and safety light barriers – to be decentrally connected and freely linked in the field.

Unique to the device is the ability to connect up to four control panels with EMERGENCY STOP buttons and as many as three non-failsafe command and signalling devices. This simplifies the wiring effort required of users, minimises installation effort and enables wide-ranging diagnostics functions.

A perfect combination for retrofits
Schmersal will also be using SPS as an opportunity to present innovative interlocks, such as the AZM161 and AZM300, as well as control panels, such as the BDF200, and new versions of evaluation logics, such as the SRB-E-402FWS safety relay modwule. Combining these components gives users the perfect out-of-the-box solution for older machinery, allowing them guard against hazardous run-on movements on rotary machinery. The SRB-E-402FWS safety relay module combines the functions of failsafe two-channel time monitoring with failsafe two-channel guard door monitoring in a single device. Guard door monitoring is handled by a solenoid interlock, such as the AZM161 electromechanical solenoid interlock or the AZM300 electronic interlock, the latter being fitted with a security-enhanced RFID sensor. A type BDF200 operating unit is the control unit and third component in the retrofit package solutions. Thanks to its compact size, the assembly can be mounted directly to the guard door.

Visit Schmersal at SPS – Smart Production Solutions – Stand 460, Hall 9 between 8th-10th November 2022.

Steve Watkins,
swatkins@schmersal.com
www.schmersal.co.uk

Award win for project designed to underpin world-class vaccine, cell and gene therapy manufacturing capability

31 May 2022: Global data centre and critical infrastructure specialists Keysource, in association with Swiss-based UPS manufacturer have been named as winners of the Edge Project of the Year at the DCS Awards 2022 DCS Awards Voting. The award winners were announced at a gala dinner held at the Leonardo Royal Hotel London St Pauls on 26 May 2022.

The teams' work has been recognised following the completion of an installation of a truly modular, scalable, and highly efficient UPS and Electrical Infrastructure solution to help underpin growth in a UK Government effort to develop world-class innovative vaccine research and manufacturing capability.

Scientists and researchers based in the centre will accelerate the time taken for new treatments to be delivered to patients by developing cutting-edge therapies to treat life-changing diseases.

The edge data centre that supports the essential laboratory work, is responsible for ensuring that samples and vaccines remain in optimal condition. The installation is now the first medical facility in the UK to take advantage of Li-ion batteries in combination with CENTEIL's fourth generation three phase, true modular UPS, CumulusPowerTM which offers industry leading 99.9999999% (nine, nines) availability translating to just milliseconds of downtime per year.

Louis McGarry, Sales and Marketing Director, CENTIEL UK explains: "The facility runs off different energy sources from the grid, to sustainable power. This means the UPS is called on more often to provide a clean, continuous source of power to support the laboratory environment and ensure optimal conditions. Li-ion batteries offered the perfect solution as they are highly capable of cycling many times over, unlike traditional VRLA batteries, where cycling shortens their design life significantly.

Richard Clifford, Head of Solutions at Keysource comments: "At Keysource, we deliver the finest and most efficient facilities, utilising the latest in critical power and cooling technologies.

Our solutions support the latest generation of high-performance, high-density computing and have been internationally recognised as examples of best practice. We are proud to support clients that lead the development of new, innovative technologies to bolster the UK's medical research capability. This project is a perfect example of why investing in critical infrastructure, and its protection is essential to ensure these vital services continue to operate, now and in the future."

For more information please see:
www.centiel.co.uk
www.keysource.co.uk



Machine building solutions from Foremost



Foremost Electronics the engineering-led Essex based importer and specialist distributor of electromechanical components, is a key source of supply for machine builders looking for rugged and reliable enclosures, human machine interfaces (HMI) and secure cable entry systems.

Channel partners for the German manufacturer nVent Schroff, Foremost can supply their range of cabinets, desktop enclosures, 19" cabinets, and sub racks. Their wide range of products include rugged, waterproof, modular and user configurable enclosures to suit many industrial environments.

Just announced is the FIBOX NEO standalone enclosure featuring a modern design with a large viewing area reinforced against impact dust, snow and caustic substances. It is double insulated and has double walled base corners as well as integrated rain canopy.

Available from IDEC, Foremost can supply their wide range of machine safety products including the IDEC X-series E-stops with an exclusive "Safe Break Action" that turns the machine off if a failure occurs within the E-stop itself. Other products include machine status LED indicator towers and the HT3P SAFETY COMMANDER™ which can convert a tablet computer into an industrial HMI with safety functions.

Comprehensive cable entry products available from icotek include water and dust proof and EMC shielding options as well as modular systems which can accommodate cables with connectors fitted.

For more information call +44 (0)1371 811171, email sales@4most.co.uk or visit www.4most.co.uk



Introducing SmartDrawer+

Tooling Intelligence Ltd has now introduced its latest inventory management system, the SmartDrawer+. The exciting new system has evolved from the renowned SmartDrawer that has been leading the industry with its intuitive touchscreen control, safe and secure construction and user-friendly dispensing.



The new SmartDrawer+ has been developed to meet the ever-expanding requirements of a broad range of industry sectors, with weight-based vending, in-compartment charging, ticket printing, enhanced security and customised lighting all available. Commenting upon the launch of the new SmartDrawer+, Richard Swaffield from Tooling Intelligence says: "The SmartDrawer system continues to be an extremely successful distribution point for engineers since its market introduction. We continually record customer feedback and work to evolve the SmartDrawer to go beyond the demands of the industry – with the SmartDrawer+, we are exceeding industry expectations."

Building on the adaptability of SmartDrawer, the new SmartDrawer+ includes a multitude of features that make it the perfect inventory management solution for any industrial environment. Offering further enhancement to SupplyPro's excellent serialised & calibrated asset management features, SmartDrawer+ includes in-compartment charging, with power sockets built-in to the locked compartments to allow the controlled recharging of assets such as laptops, tablets, batteries, power tools and testing equipment. Furthermore, network-enabled pockets allow businesses to implement critical security updates or send important software and data to devices – all whilst being securely stored.

The new SmartDrawer+ offers an extra level of control with its reliable weight-based vending. With weight-based vending, the SmartDrawer+ gives the customer 100% control over the movement of inventory in and out of the SmartDrawer+, whilst eliminating the need for users and administrators to spend time counting parts in and out of stock. The user simply takes what they need and SmartDrawer+ reports the activity instantly, and with complete accuracy.

Complementing these enhancements are a further range of options including ticket printing, electronic cabinet-locking and LED lighting display. The ticket printer can be customised to provide an instant transaction receipt, a pick-list history, collection instructions and much more. With electronic cabinet locking, SmartDrawer+ delivers the ultimate level of security where it is required, as the cabinet drawers are securely locked until a valid user login is presented. When the user logs out, SmartDrawer+ is automatically locked down for complete security. And to further enhance SupplyPro's pick-to-light technology, SmartDrawer+ offers customisable integrated LED lighting, for the peak of functionality and cutting-edge aesthetics.

SmartDrawer+ is supported around the clock with proactive device monitoring, technical support and expert advice. SmartDrawer+ also incorporates all of the latest Industry 4.0 technology that has been built into the user-friendly interface to make shop floor utilisation a truly failproof operation. For further details on the impressive new SmartDrawer+, please contact Tooling Intelligence.

T 01926 484 511
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www.toolingintelligence.co.uk



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Mechanical Software Company Of The Month

Software for mechanical engineering

In this issue of Industry Update we have chosen MESYS AG as our Mechanical Software Company of the Month.

MESYS AG in Zurich, Switzerland, develops software for technical calculations in mechanical engineering. Its main focus is the sizing of machine elements like gears, shafts, bolts, rolling bearings and more. In addition to standardised software, custom software is also developed, therefore the company can easily update client's old software.

MESYS also support the design of machine elements especially for gears, or it can do ratings according to different standards using modern calculation software. MESYS software is currently used by more than 300 customers from 30 countries on 4 continents.

The company's main product is a shaft system calculation, which considers the load distribution within rolling element bearings. It is a fully coupled calculation including 3D-FEA based 3D-elastic parts, which allow the consideration of



deformations of bearing rings coupled to an elastic housing or deformations of elastic gear bodies. The consideration of elastic environments is important in case of relatively soft environments like in wind turbines or in automotive or aerospace components.

This software allows the calculation of deformation of several coaxial shafts in combination with non-linear bearing stiffness of rolling bearings and coupling by gears or belts. In addition to deformations, forces, moments, equivalent stress and bearing life, also the strength according DIN 743 and natural frequencies can be calculated (optional with gyroscopic effect). The new version of the software was published this summer, adding several new features requested by customers.

Obviously there are other similar systems available on the market, but most shaft system calculations focus on gear calculations, while the MESYS software focuses on shaft and bearing calculations. Regarding gear calculations, only interfaces to third-party programs are included

Owner Markus Raabe commented, "regarding the calculation of spindles, one advantage of MESYS system is the availability of bearing databases from several manufacturers including internal geometry. This is needed to determine proper values for preloads, and the software is easy to use and pricing is more moderate compared to similar level of functionality."

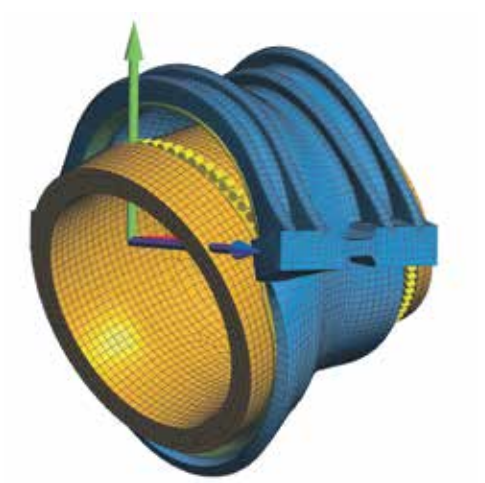
MESYS has been able to exhibit these products at recent events, as in 2022 conferences finally took place again after the pandemic. The company had a booth at four conferences during the year, which



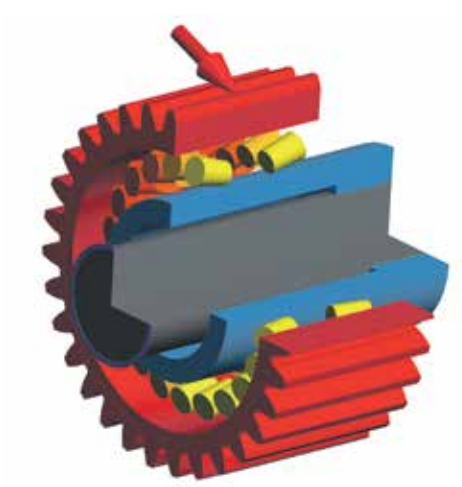
made personal contact with existing customers possible again and also led to some new contacts.

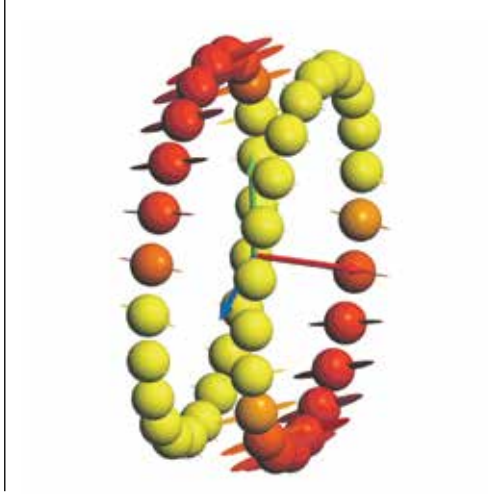
As Markus looks to the future for MESYS, he concluded, "in the short term there is still a list of features to be implemented, and the handling of 3D-FEA inside of the software should become more flexible to use. Longer term, we are evaluating the need for further platforms for the software as currently, customers mostly use Windows operating systems. There had only been a few requests for macOS or Linux, but recently, web-based applications are being used more frequently, maybe this will gain more importance in the future."

For more information:
T +41 44 4556800
info@mesys.ch
www.mesys.ag









Interface G-series load cells fly off the shelves through its new e-commerce website

Interface Force Measurement Solutions (Interface) is a UK company specialising in the supply and distribution of high-quality sensors and associated electronics and displays for a wide variety of industries. Working previously with clients such as Airbus, BAE Systems, and Formula One Teams, we spoke with Tony Rokins, Business Development & Pressure Mapping Specialist, who explained some of the companies well known products.

"Our product portfolio is applicable to many industries. For instance, we are well known for our high-quality pressure mapping systems that are used by many of our automotive and motorsport customers. Our sensors deliver highly accurate, repeatable measurements and many of our load cells are used by calibration houses as calibration reference devices. Our high-quality, yet competitively priced 3 and 6 axis load cells are used for many R&D, renewable energy and robotic applications."



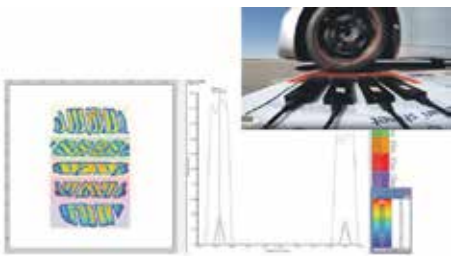
In terms of recent developments, Tony continued, "Being responsive to our customer's needs and being able to offer a high-quality product with strong product knowledge at a competitive price with the best possible lead times is our number one priority. Last year we launched our range of G-Series Load Cells. The range comprises of miniature and small sensors for industrial applications, with capacities starting from just 4.5N Newton up to 200kN with metric threads. These are high-performance devices but aimed at more cost-conscious applications. This is a new market for us, but we have already had increasing interest. We also launched our brand-new e-commerce website on the 1st of April for the G-Series that showcases Interface load cells at competitive prices with all the convenience purchasing online offers," stated Tony.

The new e-commerce website offers G-Series load cells on short lead times with next business day delivery for small quantities. Following its successful launch in 2021, it has become an increasingly popular product range for students, industrial engineers, OEMs and anyone requiring a small form force sensor offering accuracy, repeatability and Interface quality.



In the future, Interface is keen to continue its growth trajectory for 2022. Tony mentioned, "we are also working on new, wireless force and vibration sensors for remote monitoring in systems such as luggage carousels. One more area we are pushing for growth is with XSensor's pressure mapping systems, particularly in the Hi-speed systems designed for high-speed impact or crash testing and tire foot-print research. These systems are capable of capturing data up to 2,500 frames per second. The tire sensor can be driven over at speeds of up to 140kph. I believe this is a unique capability we can bring to the industry."

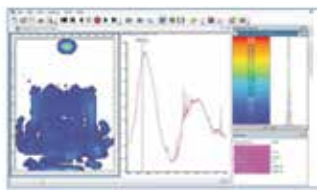
As the company looks to continue strengthening its position with its customers in its more traditional markets of aerospace, automotive, motorsport, Universities and alternative energy research, it will be attending some expos over the next 12 months and be readily on hand to discuss any questions you may have about force, torque, pressure mapping or pressure, level & temperature measurement. These expos include Advanced Engineering 2nd & 3rd November 2022 Stand L150 at the NEC, Birmingham, and Instrumentation, Analysis & Testing Exhibition on the 16th May 2023 at Silverstone Wing, Silverstone Race Circuit.



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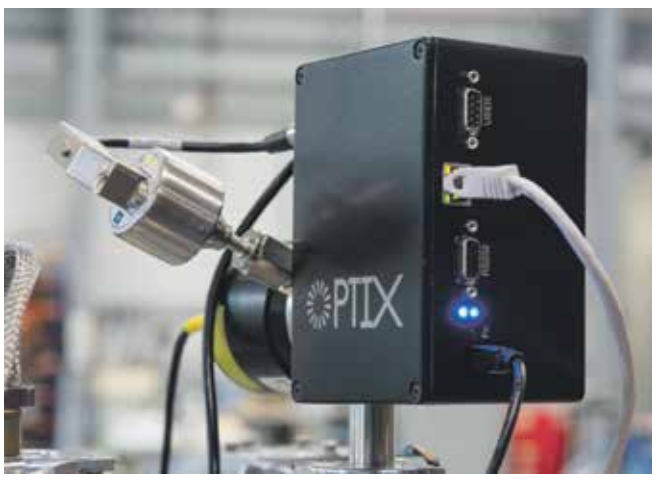
interface
The World Leader in Force Measurement







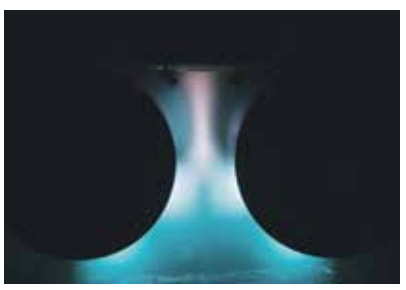
Perfect your process with Gencoa Ltd



In this issue of Industry Update, we are pleased to announce Gencoa Ltd as our Industrial Coatings Company of the Month.

Established in 1995 by Dermot Monaghan, Gencoa Ltd is a Liverpool-based Source and Component Technology provider to the vacuum coating industry sector, spanning everything from semi-conductor micro-electronics through to reflective coating on automotive headlamps, and much in between.

Gencoa is a customer-focused company which provides expert solutions for the industry throughout the world. Since being established, Gencoa has been perfecting its range of magnetron sputter cathodes and plasma deposition components, alongside the introduction of process control and sensing products.



Gencoa supply products



used in many applications across the industry, with a customer base for the critical source component side of the company consisting mainly of machine builders. Gencoa are also contracted to develop and create coating structures for larger companies.

Gencoa has been developing magnetrons for tool coating since the mid-1990's, and the wealth of experience amongst its staff enables the company to provide an optimum solution for hard coating applications. It also provides components for vacuum web coating, which is a strong industrial sector for sputtering, and covers the spectrum from packaging applications to high technology display and solar cell production.

Another common application is Optical coatings, which can be divided into 'large-scale' and 'small-scale'. 'Precision' optics are associated with the small-scale arena, where the optical layers are typically produced to very high levels of control and uniformity over an area of up to approximately 20" (0.5m) in size.

Dermot commented, "if clients require anything from a single-layer to a multi-layer device, which could be decorative or wear-resistant, or antimicrobial optical properties, it can be very difficult to find companies that can offer the services that Gencoa can. We can provide the coatings quickly, due to our staff expertise and on-site facilities, and once the customer has done the testing, we can iterate it to their full requirements."

While Gencoa export the majority of its products, its manufacturing is all done in the UK, and most of the coating services work is for UK-based organisations.

The company is also very much looking to the future, continuing development of highly antimicrobial coatings, with trials due to take place in the new Royal Liverpool Hospital in collaboration with the Liverpool School of Tropical Medicine and supported by Innovate UK. The coatings result in a permanent protection to a surface and LSTM lab data has shown a total kill of the problematic 'ESCAPE' group of pathogens in under ten minutes.

Gencoa have also developed a transparent Diamond-like-carbon coating to protect watch or phone screens from scratching or damage.

Gencoa is continuing to develop the OPTIX gas sensing unit, which provides an industrially-robust means to sense any gas type. This is a unique way of sensing gas species in vacuums, is more robust than conventional methods, and can characterise any gas present in a process. It also has applications for leak checking and QC of sealed products like automotive batteries.

Gencoa works hard to stay ahead of a crowded industry. Dermot concluded, "we have a very wide and varied range of products, and we have first-rate technical skills. Most of our competitors offer some of what we do, but our market range is much more extensive. Although our main business is components, our work around coating development of products is unparalleled and is a great help to many customers."



For more information:

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sales@gencoa.com
www.gencoa.com

TYDE – a brand you can trust

In this issue of Industry Update, we are pleased to announce Thomas Dudley as our Plumbing and Bathroom Company of the Month.

Over 100 years ago Thomas Dudley set up his own foundry that would one day transform the plumbing and bathroom industry. After many years of progressive growth, 2020 introduced the following strategic acquisitions that saw Masefield-Beta, McDonald Diecasting, Waterfit and Rugby Plastics join as one under the Thomas Dudley brand. Then, later that year, all Thomas Dudley Plumbing businesses merged to create TYDE which is now known as a market leading business supplying plumbing products.

Based in Dudley, West Midlands, TYDE is the home of over 6,000 trusted plumbing parts. Its team of highly skilled experts carefully innovate, design and develop a large range of products and services intended to solve customers' problems and ultimately make life in the plumbing and heating world easier. "We are committed to UK manufacturing and our state-of-the-art facilities produce innovative plumbing supplies for installers and end-users. Our approach is to remain the place to go for high-quality, long-lasting plumbing products. Our motto is "One order, one invoice and one delivery," because if you buy something from us, you won't need to worry about coming back with any problems," stated Paul Weddle, Business Unit Director.

As specialists in the plumbing and bathroom sectors across OEM, specification and installer markets, TYDE has a team of dedicated, passionate and innovative thinkers that provide the highest level of customer service and willing to work





hard to meet all customers' needs and budgets. Paul added, "We have developed a proven ability to solve customer problems. Whether you are looking to overcome a challenge associated with an application, product, or service, we can work with you to provide the perfect solution."

Two new products worth noting include the new Dudley OSMO® F1 and T1 Cisterns, to which TYDE is proud to say that the OSMO® F1 is the world's first front access serviceable cistern.

Fitted with the Dudley Turbo Edge syphon, the Dudley OSMO® F1 guarantees leak-free flush mechanism. Made in Britain, and approved by WRAS, it has been designed for use with WC furniture and IPS panelling. Its stylish, versatile, easy to fit and service and is perfect for domestic and commercial applications where it can confidently be installed in fitted furniture, behind walls and to most partitioning materials.





The Dudley OSMO® T1 incorporates a reversible cistern body, achieving multiple inlet and outlet options and comes with an easy top access with snaplock lid™. It also has a flushpipe stability system with SureLock™ bracket and is perfectly designed to be mounted behind IPS, within compact voids or on timber and steel framed pods.

Looking ahead, TYDE will continue developing new products and services for its customers as it also looks to enter new markets both here in the UK and overseas. But, at the heart of every successful business, the real value added so to speak, lies in its employees and loyal customers. Paul highlighted, "We have a dedicated team working at TYDE who are always ready to go the extra mile for our customers. We will always place our customers at the heart of everything that we do."



For more information, see below:

T 0121 530 7000
www.thomasdudley.co.uk/tyde

Women in utilities



At Lanes Group, one of our most important principles is making sure that all staff members are welcomed and treated fairly and equally, and that nobody joining our team is ever made to face additional barriers as a result of their identity. As such, we consider it a top priority to ensure that women engineers and other female staff members are given every chance to succeed here.

We employ a large number of women in various roles across our entire organisation, from field-based engineering roles through to office-based administrative positions. Gender is no barrier to a long and successful career at Lanes, and our female staff speak positively of the supportive environment and equal opportunities they have received in their time with us.

No matter what kind of role you are seeking at Lanes as a female candidate, you will be valued as an equal member of the team. You will also have ample opportunity to build your skills and take on leadership roles at the UK's largest privately-owned specialist drainage and wastewater contractor.

You can find out more about the work we do to support women engineers and female staff in our workplace on our website. You can also browse our full range of job opportunities today to start your professional journey with Lanes Group.

https://careers.lanesgroup.com/

ACI Group achieves UK first with Social Value Quality Mark



ACI Group, a leading distributor working with some of the largest global food, pharma, industrial and road businesses, has become the UK's first distributor to achieve the esteemed Social Value Quality Mark (SVQM) – an award that aims to cultivate and recognise the highest known standards in values-led business.

To mark its journey towards a sustainable business model, the Berkshire-based company has announced recently that it will redefine what sustainability means under its distributor as a service model.

As part of a series of pledges for the SVQM, ACI Group aims to positively disrupt the market by taking pivotal steps to demonstrate its commitment to both people and the planet.

"We are passionate about service and sustainability in the supply chain – and we want to start making a difference in our customer supply chain today," comments Karsten Smet, Director at ACI Group. "Consumers want demonstrable proof of sustainability claims from the brands they purchase from, they want to understand where their products have originated and how they are made. At ACI Group, we want to help our customers and suppliers ensure that any sustainability claim is measured from the outset."

For further information about the Social Value Quality Mark, please visit: www.socialvaluequalitymark.com

To find out more about ACI Group and its activities, visit: www.acigroup.biz

Recycling UK Limited

Recycling UK is one of the largest independent recycling companies/traders in the United Kingdom.

From its head office at Tarporley, Cheshire, and associate processing plants throughout the UK & Ireland, it can cover most recycling needs. It also has office/joint ventures in Mumbai, India, and Waterford, Ireland.

It is a trader of all grades of waste paper & plastic in the form of bulk loose, baled, or palletised material, surplus or damaged reels & redundant stock of paper and plastic packaging and supply material to customers in the UK, Europe, India and throughout Asia.

Its wholly owned subsidiary OWP Ltd processes over 1,500 tonnes per week at a dedicated plant at Oswestry situated on the England/Welsh border with material collected by various means within a 150 mile radius.

It also collects material throughout the UK and Ireland using trailers for delivery to Oswestry or to one of our associate processing plants.



Please contact our commercial team on +44 (0)1829 732471 or email: commercial@rukgroup.com or visit: www.rukgroup.com



Humidity control: Creating the ideal environment

Humidity Solutions a leading independent specialist in humidity control, offering a range of humidifiers and dehumidifiers from the world's leading manufacturers. "We have a highly experienced and knowledgeable team of sales and aftersales engineers who can design a bespoke solution for each unique application and supply, install and maintain the equipment throughout its life. This end-to-end solution enables us to offer unbiased advice, streamlining the process to help customers to protect their greatest assets: be that people or equipment – or both," said John Barker, Managing Director.

Established in 2008, in response to the markets need for a dedicated specialist in humidity control, Humidity Solutions vast became an independent leader in its field, providing innovative solutions for a wide range of industrial and commercial applications. Headquartered in Leatherhead, Surrey, Humidity Solutions has engineers based all over the country in the North, Midlands and the South, enabling a UK wide coverage for all maintenance, installation and service requests.



The considerable technical knowledge, expertise and experience within the team, allows Humidity Solutions to provide a full turnkey service, from design and installation, through to commissioning and ongoing maintenance. "We are able to offer humidification and dehumidification products and advice from some of the world's leading brands including Neptronic in Canada, Vapac in the UK and Cotes in Denmark," stated John.

Correct humidity levels also have a direct impact on health and wellbeing and is crucial to many industrial and commercial processes such as medical research, data management, and packaging. Furthermore, it plays a vital role in the safe storage, display & protection of many consumer goods. Humidity Solutions is the leading independent specialist in humidity control. Boasting an extensive product portfolio, Humidity Solutions has a strategy to minimise its environmental impact by offering alternative low energy solutions to the more traditional, high energy usage equipment. Its vast range of products includes adiabatic humidifiers, steam humidifiers, desiccant dehumidifiers, refrigerant dehumidifiers, as well as other products such as reverse osmosis systems, and Vesuvius humidifiers.



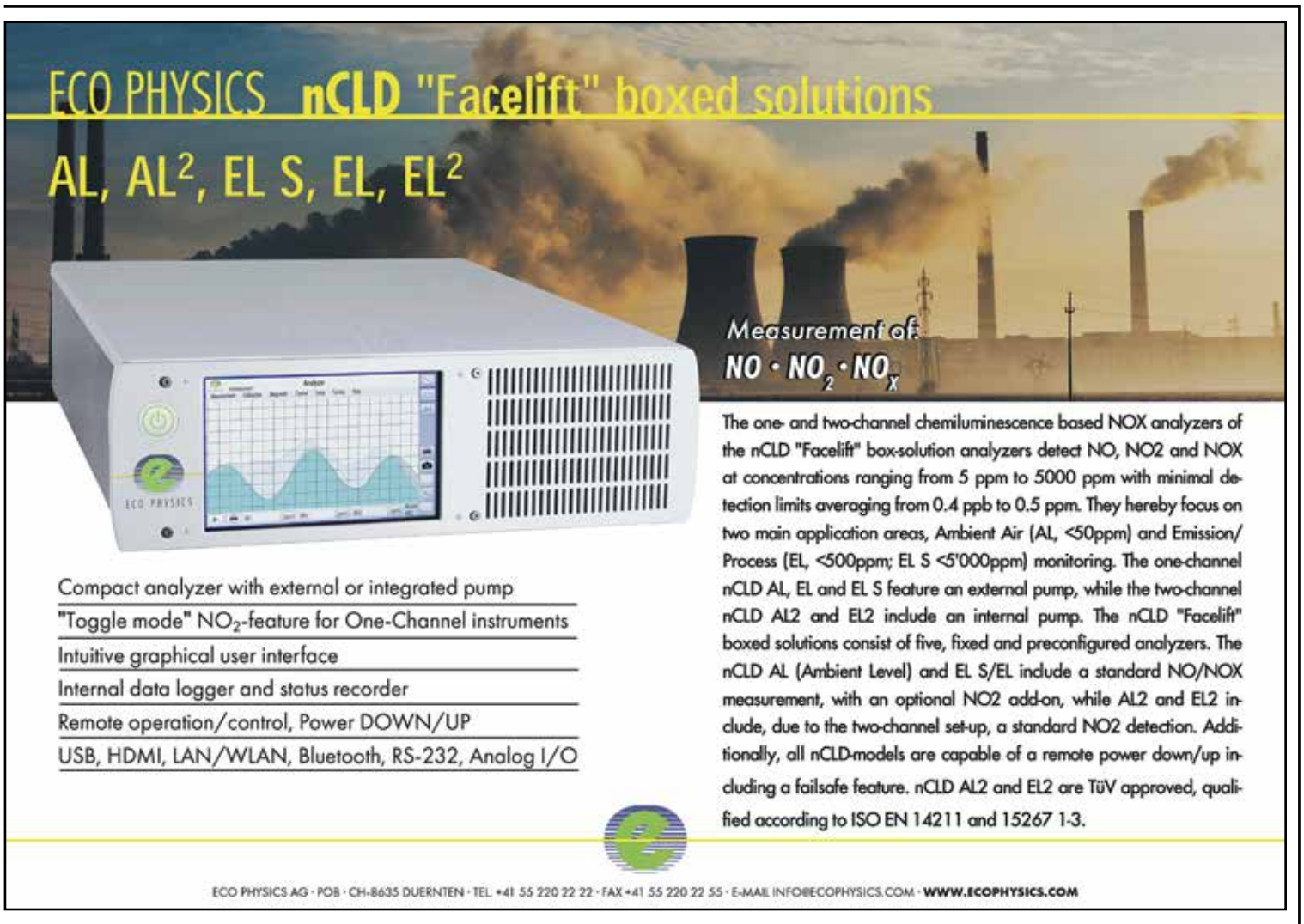
Ensuring each client has access to a personal service, Humidity Solutions can design a bespoke solution for each unique application such as industrial manufacturing, food and drink processing, hot yoga studios, classic car storage, print and packaging and many more. The benefits of these products provide a vital service boasting five-star reviews from previous customers such as Hot Yoga Studio, who commented, "Since the install, Hot Yoga has gone from strength to strength, and with the 'Vesuvius' now installed we have been able to offer a first-class hot yoga experience to our clients."

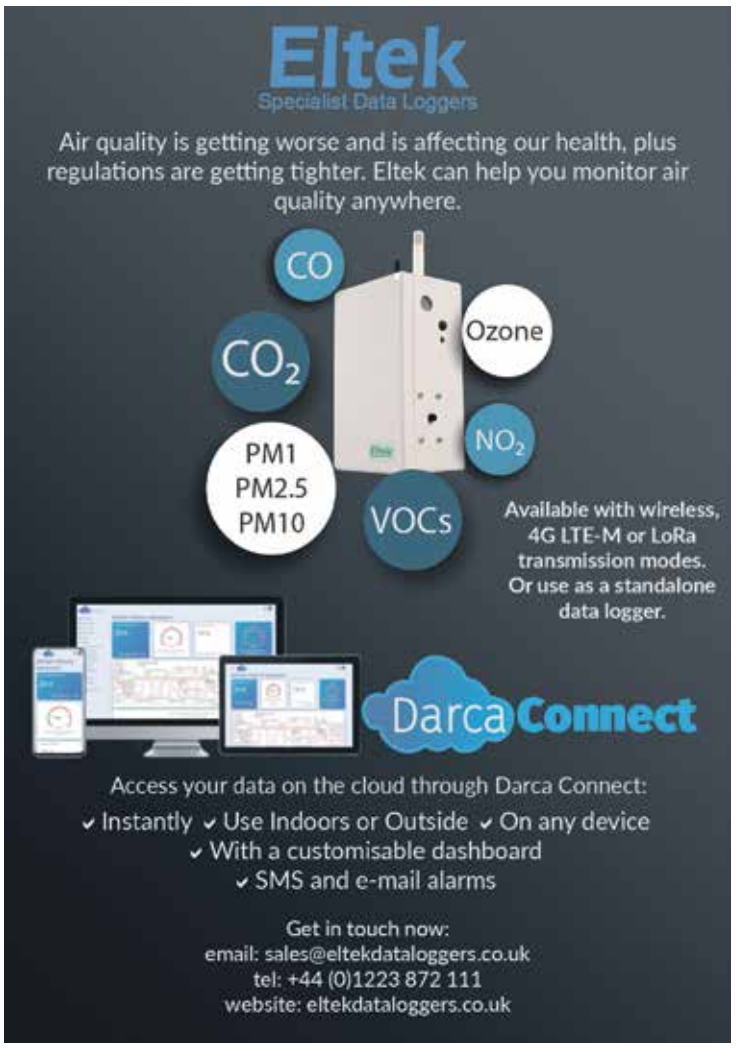
Moving forward we asked John what their plans for the future are, he answered, "This year, we have big plans for growth, ensuring that we can help as many new and existing customers with their humidity control problems as we can, while maintaining our high levels of customer service. Expertise and exceptional service is what makes us a trusted and reliable partner for all humidity control projects. We've put all the foundations in place, hiring more personnel in head office and across the UK to be able to deliver full UK coverage, free site surveys and fast delivery of all new units and spares."

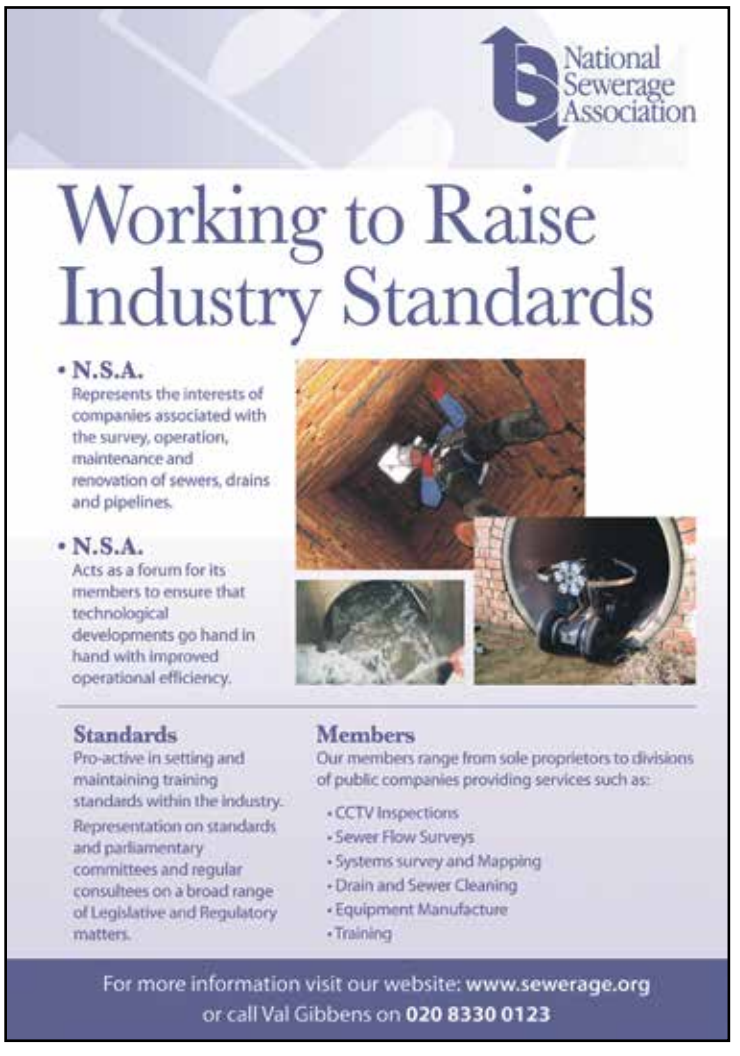


T 01372 571200
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HUMIDITY SOLUTIONS
Independently better







Supporting a sustainable future

Reduce emissions. Net zero 2030. Reduce energy dependency. Now or Never. 1.5 Degrees. Heading for a climate disaster. Governments must act now. New energy strategies. The cost of climate inaction.

These are just some of the soundbites from the news in recent weeks as the acceleration to net zero 2030 goals speeds up. With rising energy costs across the globe putting pressure on household and commercial expenses, and the actions of Russia in Ukraine emphasizing the need to reduce energy dependencies from overseas, harnessing energy from the earths elements is in full focus.



Earlier this year the UK published its strategy for increasing energy independence. Nuclear, wind, solar and hydrogen all play a part in that with strong targets to achieve by 2030; hydrogen capacity to double and solar to increase by up to 5 times the current outputs. The Offshore Wind target is to generate 50GW of energy by 2030, currently sitting at 11GW. These are ambitious targets and that sort of commitment is going to take some serious infrastructure installation projects.

The UK are not alone in the push to renewable energy, especially offshore wind. The USA conducted an offshore wind lease sale off the coast of New York, fetching over $4 billion, a major step in the US push to renewable energy. In March we saw a new study reveal that the Asia-Pacific region's wind energy sector could soon account for nearly a quarter of their power this decade, with China set to be the largest market by 2030. And in the same time the Government of India announced funding for a offshore wind energy test facility by India's National Institute of Wind Energy (NIWE). Since the conditions in Indian waters are different to those experienced in Europe, there is a need to perform testing to ensure wind turbines are designed for their best performance.

The future of offshore wind is looking bright, and busy. But to make this energy truly sustainable, preventative asset protection is vital to ensuring longevity.

The push to offshore wind is to take advantage of the power of the wind produced at sea, moving at a much higher and more consistent speed thanks to the open space and absence of structures. What is a benefit to production, however, poses a logistical disadvantage to construction and maintenance along with an aggressive corrosive environment. These increased offshore developments will see stronger winds and bigger waves, beneficial to production, but adding pressure to not just the installation phase, but ongoing operation and maintenance.



In this corrosive environment a wind turbine can see corrosion start in many different areas —monopiles, ladders, walkways, boat landings, guard rails and rotor heads—each of which can compromise the overall integrity of the structure. Protective coatings that can be applied to prevent corrosion from developing, or halt its progression, are essential to providing long term asset protection.

And as we have seen in many other industries, a major consideration to the ideal protective coating is surface preparation. The need for aggressive blasting to apply protective coatings is a burden in these confined and hostile environments, let alone the contamination to surroundings. Preventative coatings that can mitigate this issue are a major step forward, combine that with ease of application and minimal manpower and offering benefits to time, long-term protection, costs and production.

One brand paving the way to simpler futures is Easy-Qote; a brand on a mission to change the way corrosion prevention is viewed, and conducted, with it being applied simply as a patch.

With traditional approaches we would see a variety of materials and equipment brought to site: surface preparation tools, coatings and application tools, rope access equipment and PPE.

In the case of Easy-Qote, one individual or small team is armed with a wire brush and a roll of patches. Simply brush loose corrosion away, apply the patch and return to base. No blasting is required avoiding the all-important issue of environmental contaminants. Overhead costs will be greatly reduced with transportation and manpower costs down. Instead, protection is immediate and with a service lifetime of 25-30 years, the asset can now reach its full potential with long term protection.

These ambitious targets for 2030 will take swift and dedicated action, and it should be done with longevity at the core. A sustainable future is not just working with greener energies and renewable sources, but it involves extending the lifetime of assets and existing infrastructure, so that they can carry out their duties long beyond what the environment might normally allow.

Put simply, with Easy-Qote, we are committed to helping the wind energy industry reduce failure from corrosion issues, improve productivity, longevity, and as a result, make renewable energy truly sustainable.

Laura Hall, Senior Marketing & Communications Manager, Seal For Life Industries

Somaieh Salehpour, Vice President Technology and Strategic Marketing, Seal For Life Industries

For more information, see below:
info@sealforlife.com
www.sealforlife.com







Profit by continuous improvement



In this edition of Industry Update, we are pleased to announce Harford Control as our Information Solutions Company of the Month.

Originally established as Weighdata in 1975 by Roy Green, Harford Control is still owned and run by Roy and his family, and is based in Trowbridge, Wiltshire. Initially the company dealt with average quantity law weighing systems, but this became too specialised, and thus began Harford Control, looking at full factory floor management to begin with.

Nowadays Harford Control design, develop and manufacture manufacturing execution and information systems, and it helps companies to improve every aspect of their systems from goods in to goods out. The company firstly looks to help businesses to minimise raw materials wastage, whether that is energy costs, spillage (or conversely over-filling), or having systems set up wrongly.

Secondly Harford help businesses to reduce conversion costs, as reducing raw materials into finished products takes manpower. Roy commented, “we help our customers to utilise these aspects of their business to the optimum level, while taking out all of the unnecessary wastage of labour. We have found that supporting businesses even in a small way can help them to save hundreds of thousands of pounds a year.”

Harford Control also supports businesses to ensure that Allergens in their products are fully known and labelled. This is done by ensuring that all procedures are followed to the letter, including setting up of date codes and bar codes, and setting up all machines for these processes, thus removing the possibility of operator error,



in addition to reducing changeover times, which all businesses look for. This Coding and Labelling Compliance is a crucial part of the work of so many companies, and is used to prevent non-conformances and reduce the cost of manufacturing at the same time.

While competitors offer some of what Harford Control can provide, they cannot offer the same full range of services. Roy continued, “we provide weight control as part of the quantity law control as a small amount of overfill can make a massive difference to a high-volume producer. We also provide Overall Equipment Effectiveness (OEE),



Live reporting, vision inspecting, and our Hardware is standardised and expandable, so that it can be used for simple standalone systems or for complex, integrated solutions.”

Another aspect of the work of Harford is Short Interval Control, which is splitting longer work shifts into shorter time sections. This enables companies to check that they are meeting targets more regularly, and these quick and focused reviews of performance data during the shift, enable mid-course corrections and immediate small-scale fixes that collectively result in





significant improvements in performance.

Paperless Quality Management is an important service offered by Harford Control as it helps businesses to get rid of paper either manually, or by linking up to other peripherals like Refractometers, torque meters or titrators among many others. All information is transferred directly, without any need to use paper and together with in-line data capture from scanners, date coders, or sensors, the system offers the capability to remove all factory floor paperwork and removes the need for reviewing and validating paper-based control documents.

As Harford Control looks to the future, it is employing new technicians around the world, and also will be moving premises. These plus it’s expertise across the industry will enable the company to remain at the forefront of this industry.

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www.harfordcontrol.com

Berry Global merges its M&H and PET Power businesses to form Berry Distribution Division

In this issue of Industry Update, we are pleased to announce Berry Global as our Packaging Company of the Month.

Berry Global creates innovative packaging and engineered products that help make life better for people and the planet. Harnessing the strength in their diversity and industry leading talent of 47,000+ global employees across more than 300+ locations, Berry partners with customers to develop, design, and manufacture innovative products with an eye toward the circular economy.





In late September, Berry Global will be combining its M&H and PET Power businesses to form a new pan-European operation that will be relaunching and rebranding as Berry Distribution Division.

The merger means that Berry Distribution Division will have an even greater portfolio of products to offer, as not only will it provide the existing range of products from the merged companies, but it can also offer the near 5,000



products from across the wider Berry Global network. Berry Distribution Division can also supply a range of supplementary items, such as closures and dispensers, enabling the company to offer a complete single-source solution to bring products to market in the fastest possible time.

Like its parent company, Berry Distribution Division will offer both short lead times and low minimum order quantities, including multi-product orders to provide customers of all sizes with fast access to one of the widest ranges of high-quality packaging solutions.

The organization is unique in that it works with companies from start-up businesses buying packaging for the first time, through large blue-chip companies, providing enormous scalability to accommodate customers' needs across the industry.

Joe Horton, Product Line Director at Berry Distribution commented, “both M&H and PET Power already have extremely strong reputations in the packaging industry for both quality service and innovation. Although the companies will now be marketed as Berry Distribution Division, their customers can and should expect that exact standard of service as there will be a smooth transition.”

The Berry Distribution portfolio will also include products from Berry’s B Circular range, which feature important circularity benefits, such as



the incorporation of recycled content, mono-material packs, and designs for refill and reuse, to help brand owners meet and exceed their sustainability goals. This will provide further support to customers to satisfy consumer demands and meet legislative requirements such as the recent UK Plastic Packaging Tax.

The company will be making its debut at the London Packaging Week event at Olympia in September.

For more information:
T 01502 715518
www.berryglobal.com

Successful launch of the SPGr series

Explosion Power GmbH Switzerland (www.explosionpower.ch) develops, manufactures, and commissions PLC managed online boiler cleaning equipment which remotely generates Shock Pulses by energy waves.

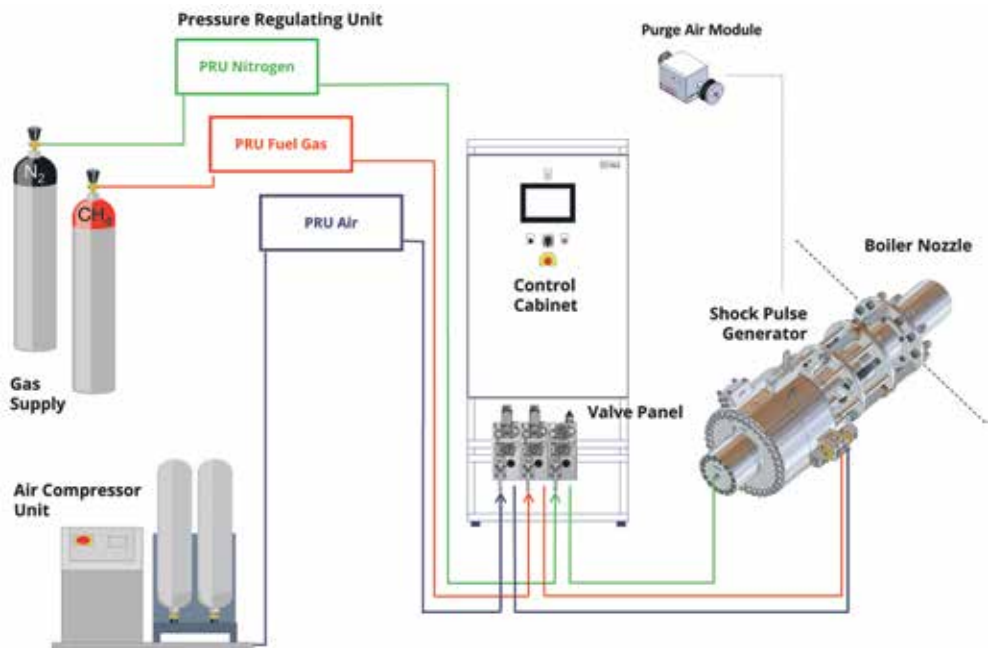
Since the launch of the EG series in 2009, where over 900 units were installed in more than 20 countries worldwide, the new generation of the Shock Pulse Generator - the SPGr series was launched in the fall 2020. This product enables even higher cleaning performance with reduced maintenance and space requirements. The excellent advantages already led to a considerable number of over 80 orders. Numerous new customers as well as existing customers are already applying the SPGr series. Significant improvements in boiler operation have been demonstrated within relatively short periods of time after commissioning of the respective SPGs. Several customers have agreed to a regular detailed analysis of the boiler operating data to be able to optimally choose the operating settings of the SPGr.

The waste incineration plant Renergia Perlen is an important example. In 2020, the waste incineration capacity was increased to 120% of the design value. This results in significantly higher flue gas and fly ash volumes. The three EG10Ls installed in the three vertical radiation passes since the initial start-up in 2015 continue to ensure a constant low flue gas inlet temperature into the horizontal pass by means of an increased number of Shock Pulses. On the other hand, fouling in the horizontal pass had increased considerably. Since August 2021, therefore, three SPGr10s per boiler have been operated in the horizontal pass. Together with the original pneumatic rapping devices, the superheater bundles can thus be kept for a long term in a sufficiently clean condition. A boiler travel time of 18 months is to be achieved.

The energy waves are created by a shock-combustion of few grams each a mixture of combustible gas (Natural Gas or Methane) and an oxidizing medium. This act is carried out automatically and outside of the boiler in a pressure resistant device. The Shock Pulse act takes few milliseconds in a total. The resulting shock wave is then injected into the boiler. Due to the spherical spread of the energy wave, the cleaning is effective forwards- and backwards of the gas flow and reaches even the shade parts of the tube bundles. There is no abrasion of the boiler internals. Even refractory lined internals are not hurt but can instead be efficiently cleaned. Major differences between the SPGr series and the EG10 series are the use of air instead of oxygen as the oxidizing medium and of the stoichiometric ratio of combustion. Air is supplied by an air compressor unit which is optimally matched for operation with the SPGr. Additionally, the SPGr series require less space in comparison to the other products.

The resulting combustion conditions allow a massive extension of the maintenance interval to 7,000 Shock Pulses. For demonstration of the SPGs reliability more than 300,000 Shock Pulses have been carried out in Explosion Power's permanent test facility by prototypes and pilot series units until today.

For more information, see below:
www.explosionpower.ch







Make better molds – Mill better, drill faster





Mold making isn't easy. There are many intricate challenges that include: highly complex geometry with 2D and 3D features, managing a wide range of part sizes, and short lead times on small quantities and new designs with no room for error. Compounding these challenges is the pressure to keep up with the rapid pace of demand and technology.

But there's a way to overcome those obstacles: Do better work with technology designed specifically for complex mold making.

Our USC-M series Milling and Drilling Centres allow you to drill faster and mill better with a single machine and fewer setups. These Milling and Drilling Centres meet the challenges of milling and gundrilling all types of metals with either a single universal combination spindle or dedicated milling and drilling spindles. Utilizing high performance spindles that provide exceptional rigidity and power transmission, these machines deliver high-torque milling capability for aggressive metal removal and shorter cycle times. Additionally, 5-axis positioning enables mold manufacturers to tackle complex geometries with exacting precision in a single setup.

Many manufacturers claim to provide milling and drilling in a single machine, but the truth is those hybrid machines neither mill nor drill well enough to make a significant difference in either operation. In effect, one process is an afterthought of the other. Our USC-M series, however, was designed from the beginning to be a single machine with superior milling and drilling performance and accuracy. State-of-the-art milling technology is embedded into a machine that has the power, thrust, speed and process monitoring competitors thought would be difficult to attain, or simply not possible.

In addition to superior quality and accuracy, the pay-off for single setup milling and drilling is efficiency and an improved bottom line. Mold makers cut delivery times to their customers with faster setups and production along with reduced overall labor costs. Once they move away from mold making operations with two machines, most of our customers find they can't afford to manufacture without a USC-M-series Milling and Drilling Centre.

The benefits of milling better and drilling faster with USC-M series machines do not stop at the spindle. There are intangible benefits as well. UNISIG USC-M series Milling and Drilling Centres allow mold manufacturers to approach their work differently and explore different approaches to mold making. With the entire manufacturing process streamlined, customers find their engineers and design teams enjoy more freedom and flexibility with the expanded capabilities. Finishing and assembly are faster because the design is more efficient, and manufacturers can do things effortlessly that were a struggle previously.
Ultimately, it's about setting the bar high and keeping it there. UNISIG sets a standard looked up to by the competition. It's a state-of-the-art mindset that takes mold finishing to a new level with a machine that allows you to mill better and drill faster.

Contact

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www.unisig.com



What's become clear after the COVID-19 is that resilient businesses share common traits.

These companies can react quickly and decisively to protect workers while keeping business running. They can adapt processes and product lines, often using flexible collaborative automation to make those changes efficiently and cost-effectively. They begin to look into the future, so they can adapt and position themselves for the "new normal."
When the first robot applications appeared, the advantages were quickly recognized. This made collaborative applications the fastest-growing segment of the robot market, which is still expected to continue. Therefore, the move to automation is not unusual. Why?

Collaborative application solutions are fast, easy and affordable for efficient and productive processes during and after a crisis. Furthermore, the collaborative applications solutions give several opportunities.
What does automation do other than being a productivity tool? One key advantage is that it gives the manufacturers flexibility, and this help ensure the wellbeing of the workers.

By automating undesirable tasks, the company can put employees into higher-value and more desirable positions. During and after a disruption, collaborative automation keeps production running while skilled workers focus on jobs where their unique capabilities provide the most value.

Manufacturers need to assess their own supply chains and ensure that they have continuity plans in place. When supply chains are at risk, manufacturers must look for other ways to make sure that their supply chain is safe. In other words, they move their focus, and look for other solutions.
So, what's next? For the first time in modern manufacturing history, demand, supply and workforce availability are affected globally at the same time. The changes manufacturers make now will help define whether they emerge as a resilient business that finds new ways to grow and succeed through the crisis and whatever comes next. Collaborative applications present manufacturers with new opportunities to build resilience and adaptability in productivity, competitiveness, and workforce.

All the answers can be found in our White paper. Download it via the QR code and learn more today about the "new normal" in automation.

OnRobot A/S

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Bradshaw releases third-generation T800



As the leading four-wheel 8-tonne tow tractor on the market, the T800 has been a popular model for over 25 years. Used in airports for baggage towing, line feed in manufacturing, waste movement for bin towing, and many more applications. The T800 is a versatile and robust workhorse.

The new T800 retains its robust build, durability and reliability that has made it a firm favourite. The third generation 8-tonne tow tractor from Bradshaw now features electronic steering, enhanced suspension, a new front axle, larger wheels, new brakes, a redesigned cab, and sharp modern looks that provide operators with a market-leading level of ride, comfort, and handling.

Electronic power steering replaces hydraulic steering, offering enhanced steering performance, making it easier for the vehicle to turn and manoeuvre at lower speeds. The use of electric motors over hydraulic systems eliminates the need for a pump, hoses, and hydraulic oil, helping simplify maintenance. The removal of the hydraulic pump has made the vehicle considerably quieter, reducing vehicle noise by 20dB. Furthermore, the T800's steering advancements paves the way for an automated tow tractor!
The leaf spring suspension has been re-configured providing the firmness required for towing applications while providing a smooth and



comfortable ride. The new larger pneumatic profiled soft solid puncture-proof tyres provide greater stability, traction and handling.

From the outside, the differences between the second and third generation T800s are obvious. The mark II's curvaceous panels have been replaced with a strong and angular design, matching the design ethos of modern-day automotive design. A redesigned sturdy wrap-around bumper plate protects the vehicle against impacts and damage.
Inside the vehicle, the changes are instantly notable. The soft touch control panels and instruments enhance the working environment, which now includes USB connectors for keeping phones and electrical equipment charged and integrated cup holders.

T800s are available with a range of cab options; uncabbed, cabbed with no doors, cabbed with PVC doors, and cabbed with twin slam doors, allowing the T800 to be configured for a wide range of indoor and outdoor operations.

Efficient towing performance
As standard, the T800 is equipped with a 20mm pin multi jaw tow hitch with various size options, making the 8-tonne tow tractor compatible with multiple trailers. The T800 includes inching buttons as standard to assist coupling, offering ease and precision when aligning tow tractor and trailer.

Batteries
The T800 utilises a powerful 48-volt system, with the choice of four standard batteries; 240Ah, 315Ah or 375Ah lead-acid batteries or a 255Ah gel maintenance-free.

For standard run-time operations, a lift-out battery suits many applications. For extended run-time applications where battery change is an operational requirement,
the T800 has the option of a side exit by either forklift or roller bed.

Electronic braking and speed control
Five individual braking systems protect tow tractor and operator. The T800 features new responsive hydraulic drum brakes to all four wheels and offers increased durability, maximising productivity and reduced servicing costs.

The T800 also includes electronic regenerative braking under deceleration, automatic hill hold, and automatically applied transmission parks brakes for greater safety assurance. The T800 incorporates an AC control system enabling a high level of controller setup,
while dynamic speed sensing prevents over-speeding in all directions.

Robust build
The T800, with its solid frame construction and reliable components, ensures long-term reliability and durability. The low maintenance AC traction motor offers more power and performance while simultaneously reducing operating costs, and the built-in thermal protection minimises service downtime.

Contact

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enquiries@bradshawev.com
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THE NEW BRADSHAW T800 TOW TRACTOR

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Professional 3D printing markets

This was our second year exhibiting at TCT, with new dates and a shorter exhibition we were a bit unsure how it would affect attendance and opportunity for clients/suppliers to meet.

We had expanded to a new platform of FDM for our business coming from a Resin background and wanted to show that off at the show.

To our surprise the show was better than anticipated, we made more meaningful connections and key potential partnerships. Making the show more than worthwhile and booking next year whilst at the show and doubling our booth size. The attendees of the show were more experienced and focused than the previous year, and it was great to knowledge share with them.

We can clearly see the direction of the TCT show and the way it will be fundamental to the UK 3D additive manufacturing industries. For us this is the main show in our calendar.

info@pro3dshop.com
www.pro3dshop.com





3DPRINTUK @ TCT 3Sixty

At 3DPRINTUK our days are always busy on-site at our factory. This week, however, for some of our team, the last two days have been busy in a different way - at TCT 3Sixty.

As the UK's largest dedicated 3D printing and additive manufacturing trade show, TCT 3Sixty has been an annual pilgrimage for us, and even though it has moved from its traditional Autumn spot on the calendar to early Summer, we returned to the NEC in Birmingham, to Hall 9 this time around, and set up shop.

Visitors to our stand were generally buzzing with anticipation and excitement. And not just because of our recently announced price drop for our MJF service - mostly it was because they were out and amongst like-minded people, with no restrictions placed on them. There were even a few hugs going on around the place too - and we were all in.

With this being our 10th year in attendance (let's ignore the Covid years) we are able to compare our previous experiences over the years. In the beginning, our role at a show like this was always about education, often at a basic level, explaining the concept of 3D printing, its applications and where and why polymer powder bed fusion (PBF) fits within the industry landscape.

Across the last 11 years, this has changed dramatically. This week the conversations we have been having with visitors — both new and familiar faces — have been based on very direct questions about how we could potentially help them with clearly defined objectives and a broad knowledge and understanding of 3D printing was obviously already embedded.

The majority of visitors to TCT 3Sixty invariably attend in an industrial capacity - looking for 3D printing solutions to industrial problems, whether for product development or for manufacturing, or somewhere in between. This is our area of expertise, and sharing this with our clients is our raison d'être.

Visitors asking questions at the 3DPRINTUK stand at TCT 3SixtyThe 3DPRINTUK team saw a noticeable increase in questions about 3D printing for manufacturing applications.

Low volume production has featured heavily in our conversations this week, when we have been able to demonstrate - with sample parts and material packs - exactly how the SLS and MJF 3D printing processes can bridge the gap between prototyping and injection moulding. This is achieved by delivering quality parts, in a timely fashion, that meet design function requirements in a cost-effective way. Our pricing structure and competitive cost-per-part are really what sets us apart as a service partner and we will continue to research and implement our findings to bring keep bringing costs down.

For this week though, thank you to everyone that visited the stand, if you have any further questions please do not hesitate to reach out. If you couldn't make it to TCT 3Sixty but want to know more - please let us know and we can set up a visit.

For more information:
www.3dprint-uk.co.uk




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Staying at the cutting edge of an increasingly competitive industry

Blackman & White is the UK's only manufacturer of flatbed cutting systems, and all machines are designed and manufactured at its Maldon, Essex factory. Founded in 1964 by engineers Jack Blackman and Les White, the machines are renowned for their robust build quality, and quickly delivering a return on investment.

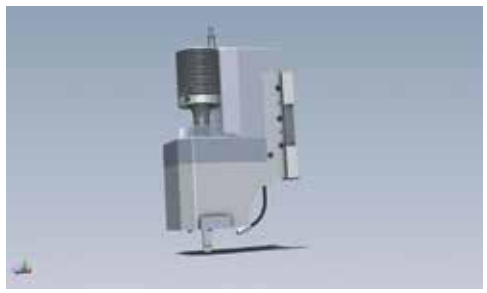
"Opening our demonstrations and training centre in early 2021 was a real game-changer," comments commercial sales manager, Matthew Tillett. "The quality of service we provide customers has increased, and offering over three B&W demonstration machines for tests allows them to leave with all questions answered."

Whilst kit cutting is one of its strongest sectors, B&W has increasingly found companies diversifying into others also. Tillett believes this is down to the current climate, where sourcing products from independent manufacturers is preferred.

"Our diverse range covers a wide array of materials, including glass fibre, carbon fibre, Kevlar, and thermoplastics. Having our 200W laser mounted directly next to two interchangeable tool slots provides a solid platform to cover all materials and applications."

Why do customers specify a new flatbed cutting system? Is it an increase in volumes, a need for faster production throughput, or quality requirements?

"All of the above, but every customer has their reason for purchasing our systems," states Tillett. "The biggest trend is the support from the manufacturing community in seeing the value in an independent manufacturer who can truly design and build something bespoke - the bespoke touch is always built into our systems."





"Progressive Technology Group selected Blackman & White to manufacturer a new cutting system in line with its new cutting-edge facility," Tillett continues. "Operations director, Daniel Smith approached us to supply his new facility with a material cutting system."

"During demonstrations, the Genesis V proved to be accurate, easy to operate, and importantly, quick. The Lite digitising system was crucial in Progressive Technology's choice, as it translates templates and file formats quickly, reducing any bottlenecks in the material-cutting process. As our business is UK-based, we offered quick turnaround times for routine servicing and breakdown, which is critical to keeping their business operational."



Tillett also tells us that, "During COVID-19 B&W adapted quickly, continually modifying our machines, plus being honest about when we could deliver. We didn't experience much downtime, but the lack of external visits and networking allowed us to finalise internal development."

"The key development is our new drive system, which pushes the Genesis V system above comparable market models regarding cutting time and methods. Our future is about the flexibility of tooling and machine specifications, with rapid innovations in materials creating a push for new tooling additions and chassis sizes."



B&W are relocating to a larger facility to house all manufacturing, service, support, development, and sales. They acknowledge that without its clients, the company wouldn't be in this position to grow and continue supporting them.

"Blackman & White has been a family-owned, profitable company for over 50 years," Tillett concludes. "We pride ourselves on customer support and value for money with manufacture and design completed in-house. With a proud heritage of customers and continual improvement, our systems are 'class leading' in the industry."

For more information:

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www.blackmanandwhite.com



UNISIG deep hole drilling systems: Perfection is never an accident

UNISIG produces deep hole drilling machines that are used around the world by nearly every industry imaginable – and at UNISIG, striving for perfection has never been an accident. To secure long-term success, the company decided to further invest in machining its own precision parts rather than subcontracting components, as some of the most critical parts they produced have tolerances and complexity that cannot be made by most machine shops.



To machine their own parts while continuing to grow and develop new products, UNISIG embarked on a new approach to machining which would allow for industry-leading CNC machine tool accuracy and performance to be coupled with new technology that would ultimately eliminate manual intervention in machining that prevails in many shops.



"The deliberate connection between engineering, design, and machining improves our product. Our ability to rely on very high accuracy and productivity from our internal machining capacity allows UNISIG to provide more advanced solutions and value to its customers," quoted Anthony Fettig, CEO of UNISIG.

Automated machining was the goal, which required a change in thinking by the team's engineers, programmers, and machinists. To harness this new direction, UNISIG put in the time and energy to secure the best manufacturing resources available, including several Okuma machine tools.

To begin, UNISIG devised a plan to combine modular fixturing, offline tool setup, and full simulation of the machine, workpiece, and tools to provide a platform of innovation within their machine shop. The team's intent was to radically improve spindle uptime and exploit the full potential of automated CNC machining, even when the batch size would be only one part.

The first step of the UNISIG strategy was to move away from classic CNC boring mills and adopt the higher productivity potential of CNC horizontal machining centres with twin pallets. After consulting with credible industry sources and leveraging their internal team's knowledge, the MB-10000H horizontal machining centre from Okuma was selected for medium-sized, high-accuracy part machining.

One of the most important factors in this capital investment was the need to trust the machine accuracy enough to program from its centre of rotation and let the machine run without stopping and manually verifying the machining process many times during the cycle. The Okuma MB-10000H installation was a success and reinforced UNISIG's wisdom to focus on automated machining – and the benefits were so extraordinary that UNISIG continued to look to additional Okuma solutions to bring its strategic vision to life.

UNISIG's next target was large-part machining. Previously, to hold the finished machine tolerances, extensive hand scraping was necessary which added a lot of time and expense to produce these machines. UNISIG established a set of machining accuracy parameters that would eliminate much of this handwork to achieve tolerances.

Working directly with the local distributor, Morris Midwest, UNISIG was able to engage with Okuma America and Okuma Corporation's technical leadership to tailor the specification of an Okuma MCR-A5CII 35x10 double column machine for the exacting geometry and overall volumetric accuracy needed.

The collective Okuma team ensured the MCR-A5CII machine tool specifications were defined and perfect for UNISIG's application. A quick-change fixture system was developed by UNISIG to allow two parts up to 3m (10ft) long to be machined simultaneously and removed for setup offline. The results after installation were very impressive, allowing lights-out automatic machining of parts previously not possible for UNISIG to manufacture.

With two machines from Okuma running and performing to expectations, one more opportunity identified for upgrade resulted in the new MA-12500 machine. The OSP Control common to these three Okuma machines was a big value to the programming and simulation group at UNISIG. "This baseline trust in Okuma is what allows UNISIG to excel at advanced manufacturing," said Mr. Fetting.

In addition to offline tool presetting and modular workholding on all machines, UNISIG uses a variety of Okuma's Partners in THINC suppliers including: Mastercam, Vericut® and Renishaw. Using a layered approach to technology and understanding the benefits of eliminating the gaps between engineering, design, and manufacturing, UNISIG has differentiated itself as a machine tool builder. The company's long history of achievement is one Okuma and Morris Midwest are proud to be a part of – especially in helping UNISIG achieve their goal of capitalising on the full potential of automated machining.

For more information, see below.
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NSK bearing developments help to maximise the performance and energy efficiency of industrial motors

The power usage of motors used in machinery is said to make up 40-50% of the world's electricity consumption, making these industry-essential devices a key energy reduction target. With this thought in mind, the market is seeing a proliferation of industrial motors claiming to offer improved energy efficiency. The latest inverter motors are also contributing to lower power consumption as they adjust their rotational speed according to operating conditions. Furthermore, demand is ramping up for new-generation servo motors, which typically find use in industrial robots as they can rotate forwards and backwards for accurate positioning. These three motor types (high-efficiency, inverter and servo) all rely on one common component to help maximize performance and minimize energy consumption: bearings.

Worldwide endeavours to reduce power consumption have led to regulations requiring motor efficiency improvements. A motor's energy loss comprises of three factors: iron loss (heat generation from the iron core); copper loss (heat generation from the winding); and mechanical loss (due to bearing rotation, for instance). Although mechanical loss can be as small as 1% of motor power consumption, it accounts for 0.4-0.5% of global electricity use, which means the worldwide impact of any reduction would be significant.

Low-torque bearings for high-efficiency motors

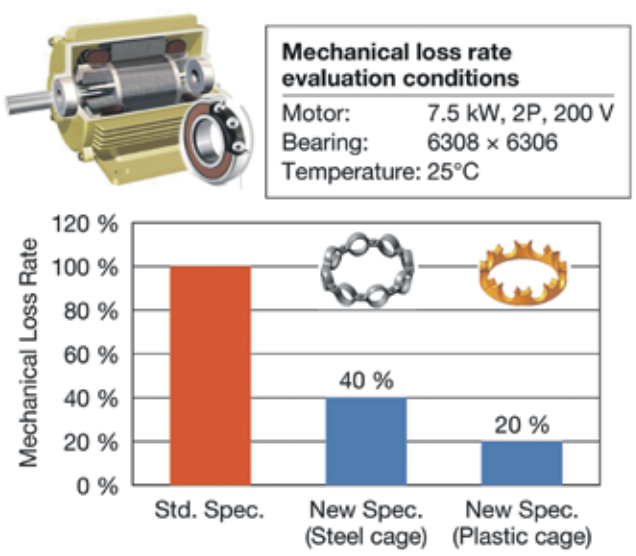
NSK has been busy evaluating mechanical loss from bearings using actual high-efficiency motors and real-life operating conditions. The company sought to identify potential reductions in power consumption by developing a test method that allows for the direct evaluation of mechanical loss in bearings. The results from these tests would feed into NSK's bearing development programme for high-efficiency motors. For instance, the evaluation of a two-pole high-efficiency motor running at 3000 rpm revealed that the cause of around 80% of mechanical loss was lubrication resistance, namely the shearing and agitation resistance of grease between the bearing parts. NSK therefore began a project to optimize the type and amount of grease, as well as the bearing's cage shape.

Subsequent tests showed that optimising the grease quantity reduced mechanical loss by 60% in comparison with conventional bearings. As a further point of note, reducing the grease content in conventional bearings tends to break the oil film and shorten grease seizure life. In contrast, the low-torque bearing developed by NSK uses special grease that, in tests, demonstrated an increase in grease seizure life of more than 2.7 times. Further tests showed that NSK's specially developed plastic cage reduced mechanical loss by half that of steel cages, largely because the plastic cage supresses grease agitation resistance between the cage and balls.

NSK's low-torque bearings, which reduce mechanical loss and allow for longer grease seizure life in high-efficiency motors, are available in sizes from 16 to 170 mm outer diameter.

Ceramic-coated bearings for inverter motors

Inverter motors, controllable with optimal rotational frequency, are useful for delivering energy savings in pumps and blowers. The general development trend is that the frequency requiring control (known as the carrier frequency) is increasing so that the motor can operate with a higher degree of accuracy. However, as the carrier frequency increases, electrolytic corrosion may occur due to high-frequency current in the bearing.



Showing the mechanical loss rate of different cage materials used on NSK's low-torque ball bearings for high-efficiency motors



NSK's ceramic-coated, electrolytic-corrosion-resistant bearings for inverter motors

Electrolytic corrosion is a phenomenon whereby sparks generate through the lubricating oil film between the raceway surface and rolling elements, causing local melting and unevenness. This effect also leads to early abnormal running noise and seizure.

Some bearings for small motors feature ceramic balls that do not pass a current to protect against electrolytic corrosion, but there are productivity issues with bigger diameter ceramic balls required for medium and large inverter motors. To remediate this issue, NSK has developed an anti-electrolytic-corrosion, ceramic-coated bearing specifically for use in these inverter motors, where the company applies a ceramic spray coating to the outer ring.

The newly developed bearing exhibits excellent electrical insulation, with tests showing around ten times more insulation (using a DC power supply) than general ceramic-coated bearings. As a point of note, the NSK bearing also demonstrates equivalent or slightly better insulation with an AC power supply, satisfying an impedance of 100 Ω or more at 1 MHz frequency.

In terms of mechanical performance, the impact resistance of the coating is about three time that of a general ceramic-coated bearing. Heat dissipation, which is a disadvantage of ceramic coatings, is suppressible using a relatively dense coating compared with that used on conventional bearings, extending both lubricant life and motor life. In tests, the temperature rise during bearing rotation was about 10°C lower than that exhibited by a general ceramic-coated bearing. The dense coating also means fewer voids and better durability.

NSK's anti-electrolytic-corrosion, ceramic-coated bearings are available in sizes ranging from 130 to 230 mm outer diameter for medium and large inverter motors.

Low particle emission bearings for servomotors

The precise positioning capability of a servo motor derives from transmitting or reflecting the LED's light emission signal in the pattern engraved on the encoder plate and feeding the received signal back to the motor controller. However, contaminating the encoder plate's surface with oil or other matter disables the signal reception and feedback of the position information to the motor controller, preventing regular operation.

In a servo motor for a robot, it is necessary to stop the arm and workpiece via an electromagnetic brake. Contaminating the brake plate with oil or other material causes brake slippage. Servo motors used in industrial robots and collaborative robots (cobots) must be highly reliable, so bearings should exhibit low particle emission to avoid contaminating the encoders or brakes.

NSK has developed a bearing for servo motors that uses a low particle emission grease with optimized composition. The bearing also takes advantage of the company's light- contact DW seal, which provides excellent contamination protection when torque levels are a consideration.

A series of simulation tests investigated the relationship between bearings and encoder brake plates with regard to the scattering of grease contamination. The tests confirmed that the scatter amount decreases when using bearings with a non-contact seal and low- emission LGU grease from NSK (compared with bearings featuring a non-contact seal and conventional grease). Furthermore, bearings with LGU grease and the light-contact DW seal showed hardly any grease scattering, an outcome that also represents an effective countermeasure against encoder corrosion.

NSK's low particle emission bearings, featuring LGU grease and DW light-contact seals, are available in sizes from 26 to 120 mm outer diameter to suit all common servo motors.

www.nsk.com

Curtiss-Wright Surface Technologies (CWST)

Curtiss-Wright Surface Technologies (CWST) provides high quality surface treatments, which will improve the life and performance of critical components through its global network of over 65 operating divisions and specialist onsite teams. Our surface treatments have been successfully used by OEM's in major industries such as aerospace, automotive, oil & gas and power generation for many years.

We are only too aware of the logistical challenges and costs faced by our customers and so we can offer a 'One Stop Shop' solution providing a wide range of surface treatments including Controlled Shot and Laser Shock Peening, bespoke and trade Coating Applications, Thermal Spray Coatings and Parylene Coatings for metal, alloy, plastic and electronic components as well as Analytical Services.

We offer our customers a single source solution and point of contact for all their surface treatments, supporting their requirements through our global network of over 65 worldwide facilities and on-site field teams, improving and reducing turnaround times and costs.

We are specialists in protecting components from common failures and reducing maintenance costs for key industries such as aerospace, oil and gas, automotive, medical and general industrial markets.

Building on the unique heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright Surface Technologies has a long tradition of providing innovative solutions and building solid and trusted customer relationships.

Full quality and customer approvals including NADCAP, ISO 9001:2008 and AS9100 Rev D.

To find out more, please visit: www.cwst.co.uk
Introducing Fluregiene 200™



Curtiss-Wright Surface Technologies, Everlube® Coating Products have partnered with BioCote® to expand their fluoropolymer coating product range to create Fluregiene 200™: an antimicrobial coating that is ideally suited for many surfaces and environments.

Based on existing Everlube® coating technology, the new Fluregiene 200™ is a unique fluoropolymer coating that offers low friction, easy-clean properties combined with superb chemical and abrasion resistance. With a view to improving hygiene standards, Everlube® Coatings have integrated BioCote® antimicrobial technology to protect the coating from microbes such as bacteria, mould and fungi. Benefits of applying antimicrobial technology into the Fluregiene 200™ include:

Anti-fouling
- Low COF Surface coating (0.08 – 0.2 static)
- Corrosion resistance and excellent chemical resistance
- Excellent chip and abrasion resistance
- Reduces and prevents build-up of contaminates



- Excellent flexibility
- Dirt and debris less likely to attach to the surface

Microbial & bacteria growth inhibitor
- Using patented BioCote® antimicrobial technology against microbial growth
- Inhibits and reduces microbial growth on protected coating
- Protects treated surfaces against bad odours, staining and material degradation

Easy clean and reduced cleaning intervals
- Provides continual microbial reduction on coating
- High PTFE content allows easy wipe down and cleaning
- Provides more hygienic and cleanable surface than brushed or finished steels

Applicable to a wide range of parts and components such as door handles, elevator buttons, airport seating and gym



equipment, the Fluregiene 200™ will be highly beneficial for these surfaces. BioCote® also has real-life data to support the application of this antimicrobial technology in environments such as health care, transport, education, public areas and much more.

For more information on Fluregiene 200™ and Everlube® Coating Products, please contact our coatings team on:

T +44 (0)1386 421444
info@cwst.co.uk
www.cwst.co.uk



Oliver Valves supporting Gulf of Thailand project

Progressing through our manufacturing factory in Knutsford, England are a large number of double block and bleed instrumentation valves for the fitment to topside platforms on the PTTEP Bundle 3 Project in Thailand, ordered by Thai Nippon Steel.

Operated by Thailand's national oil company PTTEP, the bundled phase 3 project is a long-term, large-scale contract to construct 40 Wellhead Platforms and subsea pipelines for oil and gas development and to support operations in the Gulf of Thailand. Meticulous effort from our Asia Pacific team based in Kuala Lumpur and the close working relationships they have with the customer and end-user secured the order for Oliver Valves.

Oliver's Asia territory manager Jarret Liew explains their winning approach, "customers rely on having strong communication and relationships with suppliers and want confidence that valves are manufactured to the highest quality and safety standards. At Oliver Valves, we ensure a smooth procurement process and pay particular attention to the customers' needs including valve application, specification, material and cost. We have been the global leader in supplying topside and instrumentation valves for nearly 5 decades. The expertise of our team means that we're well positioned to continue to provide the very best valve solution and service to customers in Asia and around the world."

To find out how Oliver Valves can fulfil your project requirements, contact Jarret Liew jliew@valves.co.uk or visit our website: www.valves.co.uk

International office telephone +44 (0)1565 654 089 / email: jliew@valves.co.uk



Oliver Hydcovalves are hydrogen ready

Oliver Hydcovalves manufactures valves for hydrogen and carbon capture applications that support the Net Zero Emissions Targets of industrial users.

Innovation and manufacturing of high precision quality valves has earned Oliver a global reputation as the market-leader in Instrumentation, Transportation, Pipeline and Subsea valves. Research and development are a fundamental part of our success and dedicated testing facilities in Knutsford, England, has enabled us to once again be an industry first to qualify our ball valve with hydrogen. The valve was designed and tested to Oliver Hydcovalves own qualification standard that incorporates the requirements of ISO 15848-1 and was then verified by a third-party with hydrogen.

The future is now, change is constant and we embrace new ideas and ways of operation. This is why our R&D engineering team is comprised of long-term employees that know the industry, supported by new generations of engineers through our apprenticeship programme and university graduates, who all share a common motivation: to be the best at what we do. Test facilities include a hyperbaric chamber that's capable of testing valves to an equivalent water depth of 13,600 ft. designed for subsea applications such as carbon dioxide storage, enhanced well recovery and subsea hydrogen storage.



Valves we have available for hydrogen application now include transportation valves qualified in three bore sizes to meet the requirements of ISO 19880-3 and pipeline valves that are metal-seated, endurance tested to over 400 cycles and after which remain rated with zero leakage.



The growing demand for green and more sustainable energy such as hydrogen makes it a natural step forward for Oliver Hydcovalves. Drawing on five decades of manufacturing and engineering expertise in the supply of topside and subsea valves to the oil, gas and petrochemical industries, it puts us firmly out in front to meet this new demand for hydrogen energy.

Oliver Hydcovalves will be exhibiting at this year's Hydrogen Technology Expo in Bremen, Germany on October 19th & 20th. To find out how class-leading research and development facilities and our engineered-to-order solutions are energising the hydrogen valve market, contact Nick Howard or Rob Porter in the following ways; telephone +44 (0)1565 632 636, email: sales@valves.co.uk or online: www.valves.co.uk

What size Category 5 unit do I need?

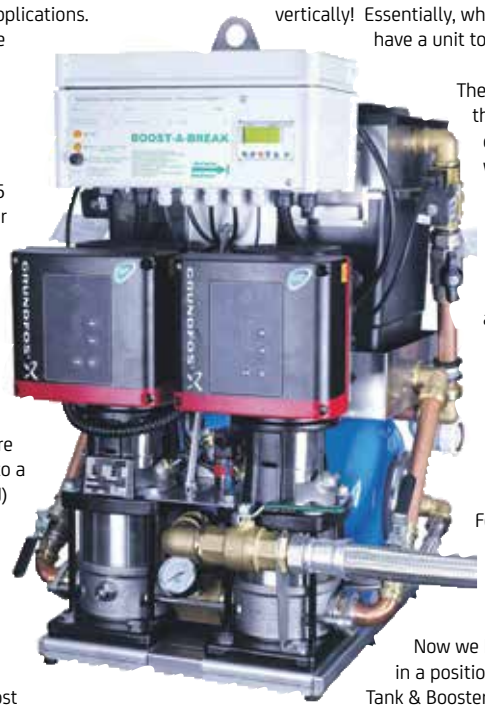
Fluid Category 5 Break Tank & Booster Sets are critical for preventing contamination from the highest risk applications, where extremely harmful chemicals could potentially backflow into the mains water supply.



Unfortunately, it is not simply a case of 'one size fits all,' with Arrow Valves currently having over fifty models in our ever-expanding Category 5 range. Selecting the correct model for a project is straightforward if you have the correct information.

All of the Category 5 units have fundamental similarities. They all have a cistern with Type AB air gap (to meet the legal requirements of the Water Regulations), an Accumulator Vessel (to ensure a smooth flow of water from the outlet), and a Booster Pump (to boost the water to the desired pressure). The key difference between all of the models is their Pump arrangement and the duty they provide.

As the world tries to reduce its energy consumption and combat climate change, it is more important than ever to select the most economical solutions possible for our applications. Incredibly, Pumps account for 10% of the world's total energy! Therefore, using correctly sized, energy efficient motors can have a huge impact on reducing the amount of energy we are using.



The vast majority of packaged Category 5 units offered by Arrow Valves use Inverter controlled Variable Speed Pumps. The benefit of Variable Speed Pumps is that they only provide the pressure required to meet the demand, making the unit economical and extending the life of the Pump.

We also offer a handful of Booster Sets with Fixed Speed Pumps, as there are some applications that are more suited to a Pump simply switching on (at Full Speed) and off. For example, a Category 5 unit supplying a single Hose Union Tap – the demand won't vary like it would if there were multiple Taps, so a Fixed Speed Pump is adequate.

Once we have determined whether a Fixed or Variable Speed Pump will be most suitable for our application, next we need to determine the required Duty (Pressure and Flow Rate).

The Pressure is the force of the water supplied by the unit, whereas the Flow Rate is the volume of water supplied. The required Pressure is affected by the length of pipe run from the unit to the outlet, whether the water needs to be boosted to outlets on floors above the Pump, and the Pressure required at the outlet. For example, industrial wash down is going to need much higher pressure than a laboratory tap.

The Flow Rate is simply calculated by how much water is needed at the outlet(s) at any one point. For example, if the unit is going to be supplying three taps that are all going to be used simultaneously and each require 0.3 Litres per Second of water, then we will need a total Flow Rate of 0.9 Litres per Second. It is obviously best to cater for worst case scenario, to ensure we have a sufficient flow of water even during peak demand periods.

The smallest model in the Arrow Valves range provides a duty of 0.15 Lt/s @ 1.5 bar (15 metres head), suitable for a domestic washing machine. At the opposite end of the spectrum, the largest Category 5 unit we currently offer can provide a duty of 4.0 Lt/s @ 10 bar – so 26 times the amount of water as the smallest unit, and a pressure capable of boosting water 100 metres vertically! Essentially, whatever your requirements, Arrow Valves should have a unit to meet the demand.

The final thing to consider when selecting our unit is the pump configuration. Our units are supplied with either a Single Pump or Dual Pump arrangement, which can be either 'Duty Standby' or 'Duty Assist.' With a 'Duty 'Standby' configuration, only one pump ever runs at a time, the second Pump is there to provide a backup if the first Pump was to fail. 'Duty Standby' units are used for critical applications, such as supplying equipment in a Hospital. On the other hand, for 'Duty Assist' configurations, under normal operation only one Pump will run to meet the demand. If the demand increases, the second Pump will automatically switch on. 'Duty Assist' is suited to applications where there are multiple outlets and demand is likely to vary a lot.

For more detailed information on the differences between 'Duty Standby' and 'Duty Assist,' take a look at the Arrow Valves YouTube channel where you can find a video specifically about that topic.

Now we have the three key pieces of information, we are in a position to select the most suitable Category 5 Break Tank & Booster Set for our project. To recap, the three pieces of information are...

- Fixed Speed or Variable Speed Pump
- Required Duty (Pressure and Flow Rate)
- Pump Configuration (Single Pump / Duty Standby / Duty Assist)

Arrow Valves have thorough Technical Datasheets for their Category 5 units to make the selection of the correct model as straightforward as possible. Alternatively, we are more than happy to make the selection for you, and answer any questions you may have – simply give our office a phone call or send an email to our Technical Department.

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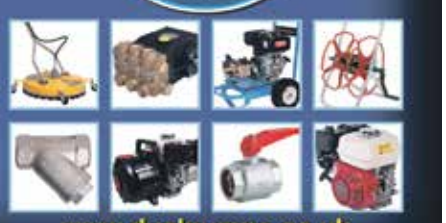
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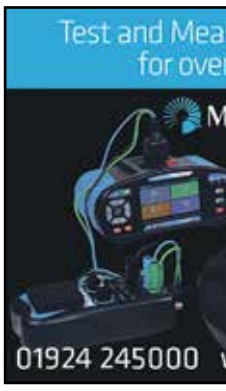
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